JHSV Concept Brief

Maj. Larry Ryder
Jan 2003

32d CMC Vision…

"High-speed, intra-theater sealift, catamaran vessels provide phenomenal increases in speed and tactical flexibility for our Navy-Marine Corps Team … our Joint Venture HSV promises to reap new developments that will lead to new capabilities. … we are confident in the HSV's capacity to deliver these capabilities and *transformational intra-theater mobility*."

Gen James Jones
CMC
13 Feb 02

33d CMC Vision…

"…We need more access to High-Speed Vessels …(they) can significantly enhance littoral, expeditionary operations *across the spectrum of conflict*…We believe that HSVs are multi-mission capable platforms that augment amphibious and prepositioned ships in order to *provide expeditionary, seabased capabilities* to the current and future Joint Forces."

Gen M. W. Hagee
CMC
Confirmation Hearing

HSV Defined …

- ***HSV is a non-specific term … different things to different people. Key Traits for USMC….***
- **High-Speed … 38+ knots at full load**
  - Maintain throughput at greater distances
  - Avoid wx, find sheltered area
- **Shallow Draft …under 14 ft at full load**
  - Access to shallow, degraded, obstructed ports
- **Maneuverability … no pilots, tugs**
  - Able to marry to lighterage, RRDF, causeways
- **Open, high-payload mission deck**
- **No Specific Hull form …**though multi-hulls appear to have advantages in maneuverability

HSV Are Not …

- **Not …a Specific Hull form …** though multi-hulls appear to have many advantages, including maneuverability
- **Not … a Replacement for Amphibs or MPF shipping**
  - Lack Amphibs' Loitering and Forcible Entry Capability
  - Lack MPF's Prepositioning Capacity
- **Not … a Forcible Entry asset**

Why HSVs?

- **DPG 04-09 …**
  - "(U) JLOTS will provide required operational maneuver capabilities in areas of anti-access or area denial and/or ***underdeveloped ports*** …"
- **QDR … Directed SecNav to …**
  - "Develop new concepts of maritime pre-positioning, high-speed sealift, and new amphibious capabilities for the Marine Corps"
- **USD for Technology & Logistics … "Fleet of 2025 must …"**
  - " Provide very high speed, long range transport … Be ***able to offload personnel and materiel at underdeveloped sites*** … ***Support the land battle*** … "

Why HSVs?

- **Expeditionary Maneuver Warfare …**

  "Seabasing will network platforms and promote interoperability among ATF, CVBG, MPF, CLF and emerging high-speed sealift …."

- **H.R. 4546, HASC Rpt on FY03 NDAA**

  "**Joint multi-mission HSV** … The committee notes … the desire to continue concept-based experimentation to enable networked sea-basing as a future joint force expeditionary capability … to identify a transformational capability enabling high-speed sustained, sea-based joint operations."

Support of Naval Concepts

- **HSVs included in Naval Transformation Roadmap … both Navy and Marine Corps**
- **Supports pillars of EMW …**
  - Assure Seabased Access - Forward Presence
  - Enhance operational reach & tactical mobility for expeditionary forces
  - Project Power & Influence
  - Enable Joint/Multinational Ops
  - Provide Strategic Agility
  - Provide Support & Sustainment
- ***Transforming Force Closure for the Joint Force Commander … More options, Greater Flexibility***

Enhanced Networked Seabasing

- **"Capabilities required to bring tailored forces to bear, when and where needed across the range of military operations"**
- **Concept of Power Projection that envisions**
  - Projecting, Operating & Sustaining Expeditionary Naval Forces
  - Phased At Sea Arrival & Assembly, Selective Offload and Reconstitution at Sea
  - "Capitalizes on the maneuver space afforded by the sea"
  - Enabler for OMFTS & STOM
- **ENS …** "assures access from the sea **without dependence on <u>static land bases, ports or airfields</u>** in the AOA."

Enhanced Networked Seabasing

- **Phased At Sea Arrival & Assembly**
  - "Move directly to the sea base via intra-theater assets such as high speed surface vessels…"
- **Selective Offload**
  - "deliver tailored sustainment packages to forces operating ashore"
- **Persistence & Sustainment**
  - **"**supported through a world-wide logistics… distribution system"
  - Replenishment & Reconstitution of Seabase via High-speed shuttle → Ship-to-Ship, Ship-to-Shore
- **Reconstitution at Sea**
  - "recovered to the seabase, reorganized, re-equipped and redeployed"

Role of HSVs in ENSeabasing

Cornerstone of USMC Experimentation

- **High-speed shuttle →Ship-to-Ship, Seabase-to-Shore, ISB-to-Seabase linkages**
  - At Sea Arrival &Assembly of forces
  - Replenishment of Seabase
  - Support Selective Offload
- **Expand Offload Options … Able to bypass deep draft ports – Increase flexibility**
- **Exploit Sea as Maneuver Space**
  - Dramatic increase in Littoral Mobility
- **Reconstitution of Seabase**

Operational Employment

…

Within 16 hours …

Mechanized TF

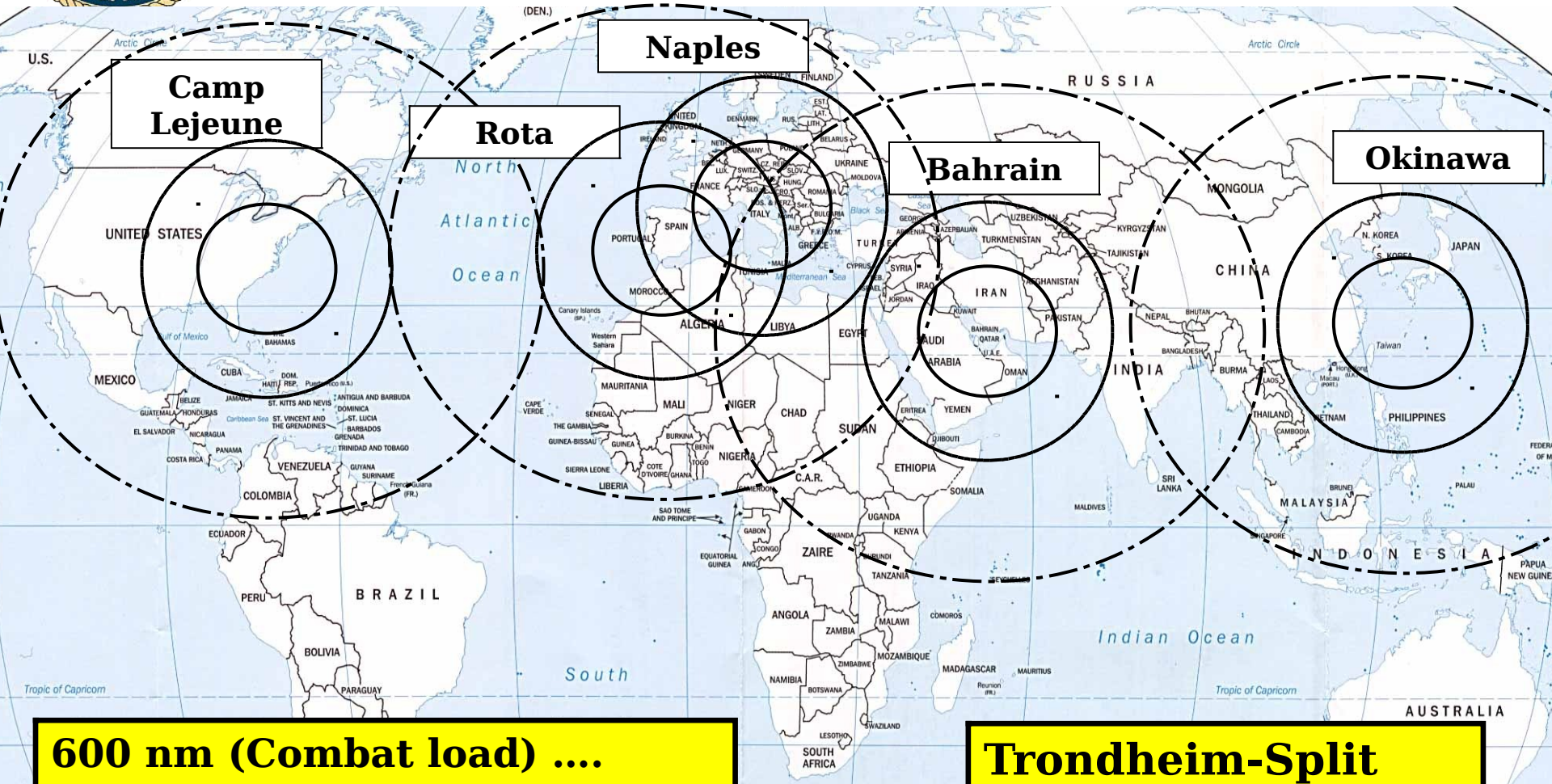
- 290 Marines
- 8 AAAVs
- 4 M1A1 MBTs
- 4 LAV-25
- 2 TOW HMMWVs
- 2 HMG HMMWVs
- 5 MRC-145/M998s
- 2 AH-1Z

Mobile CSSD

- 16 MTVRs
- 4 LVSs (Fuel, Water)
- 2 Ambulances
- 2 MRC-145s
- 12 Cargo HMMWVs
- 2 RT-4000
- 2 MV-22

… delivered 600 miles

Operational Reach



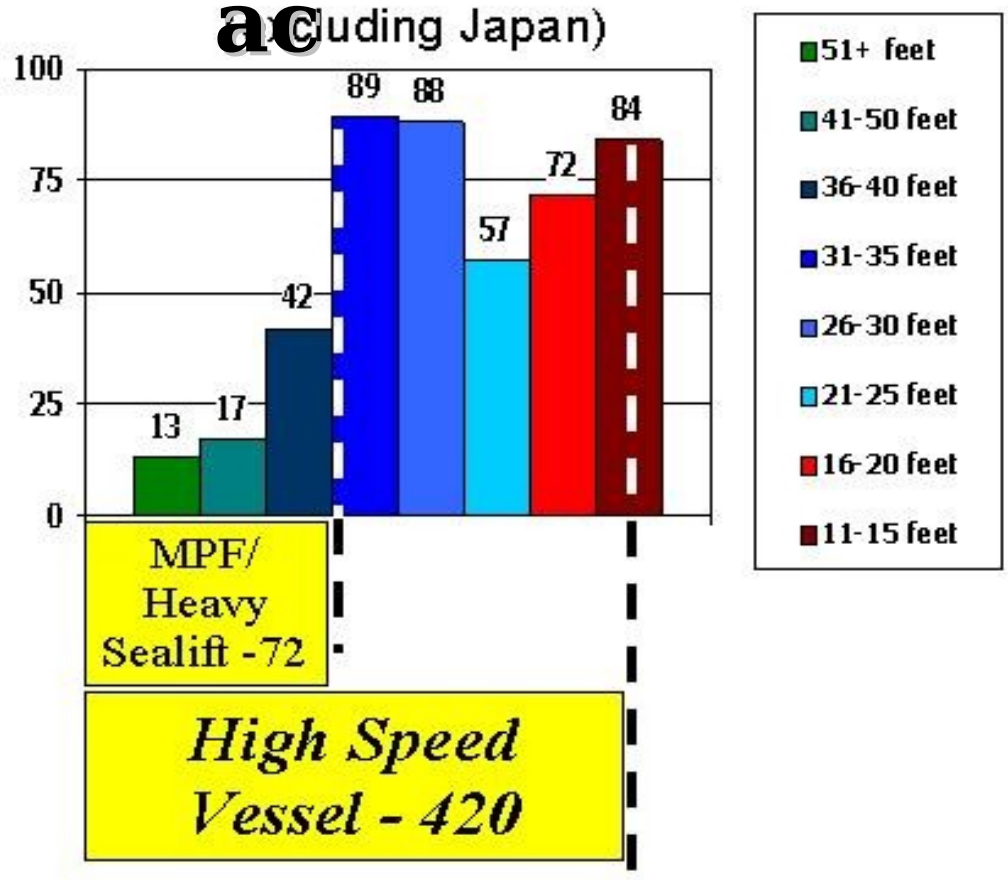
600 nm (Combat load) ....
17 hours
1200 nm (Combat load) ...
34 hours
3000 nm (lightload)

Trondheim-Split
98 hrs

Rota – Monrovia
47 hrs

Access = Flexibility

WestPac



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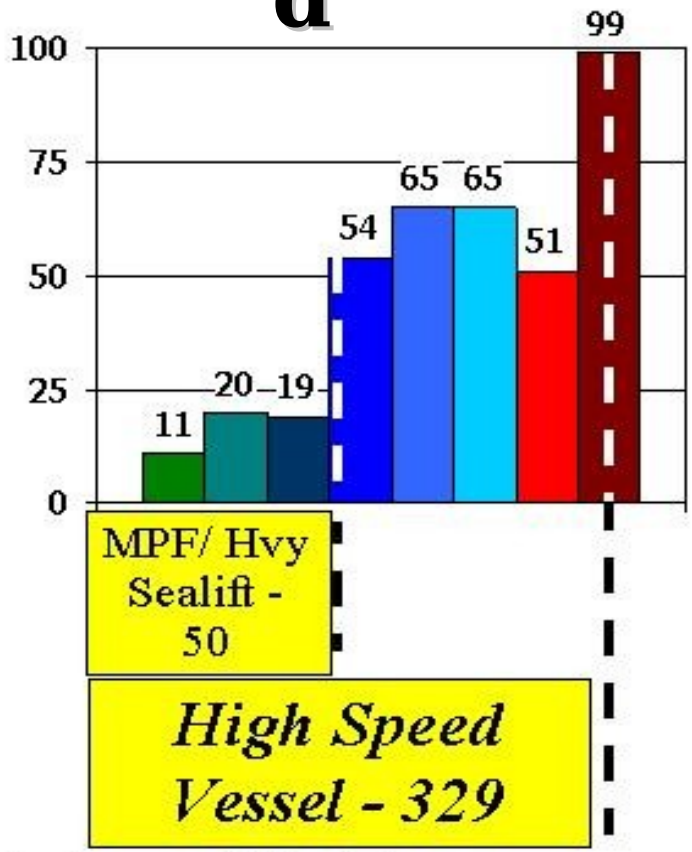

Why?...Project Objectives

- **Conduct *Concept-Based* experimentation to refine future Naval Expeditionary Concepts, and develop capabilities for future Joint & Combined Force Commanders**
- **Explore operational implications of emerging HSV technology**
- **Explore *complementary* nature of HSV technology with Amphibious, MPF and other naval platforms**
- **Develop capability to conduct ship-to-ship transfer**

Questions?

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Current Vessels

- **JOINT VENTURE (HSV-X1)**
  - Leased by Army, Navy, Marine Corps
  - Navy & Army crew
  - Experimentation platform
- **WESTPAC EXPRESS**
  - Leased by USMC to support III MEF
  - Vessel crewed & operated by civilians
  - Focus on Port-to-Port movement operations
- **SPEARHEAD (TSV-1X)**
  - Army leased & crewed vessel
- **HSV- X2**
  - Navy & USMC leased vessel to replace JOINT VENTURE

Current Programs

- **Army**
  - JOINT VENTURE (HSV-X1) partner
  - ACTD … SPEARHEAD
  - ORD for TSV
  - Replacement for LCU-2000
- **Navy**
  - JOINT VENTURE (HSV-X1) partner
  - X2 lease partner
  - Interim MCM platform
  - LCS test bed … LCS is program of record
- **Marine Corps**
  - Partner in Joint Venture and X2
  - WESTPAC EXPRESS

HSVs … Present & Future

Present **… III MEF transforming intra-theater lift using commercial high-speed vessels**

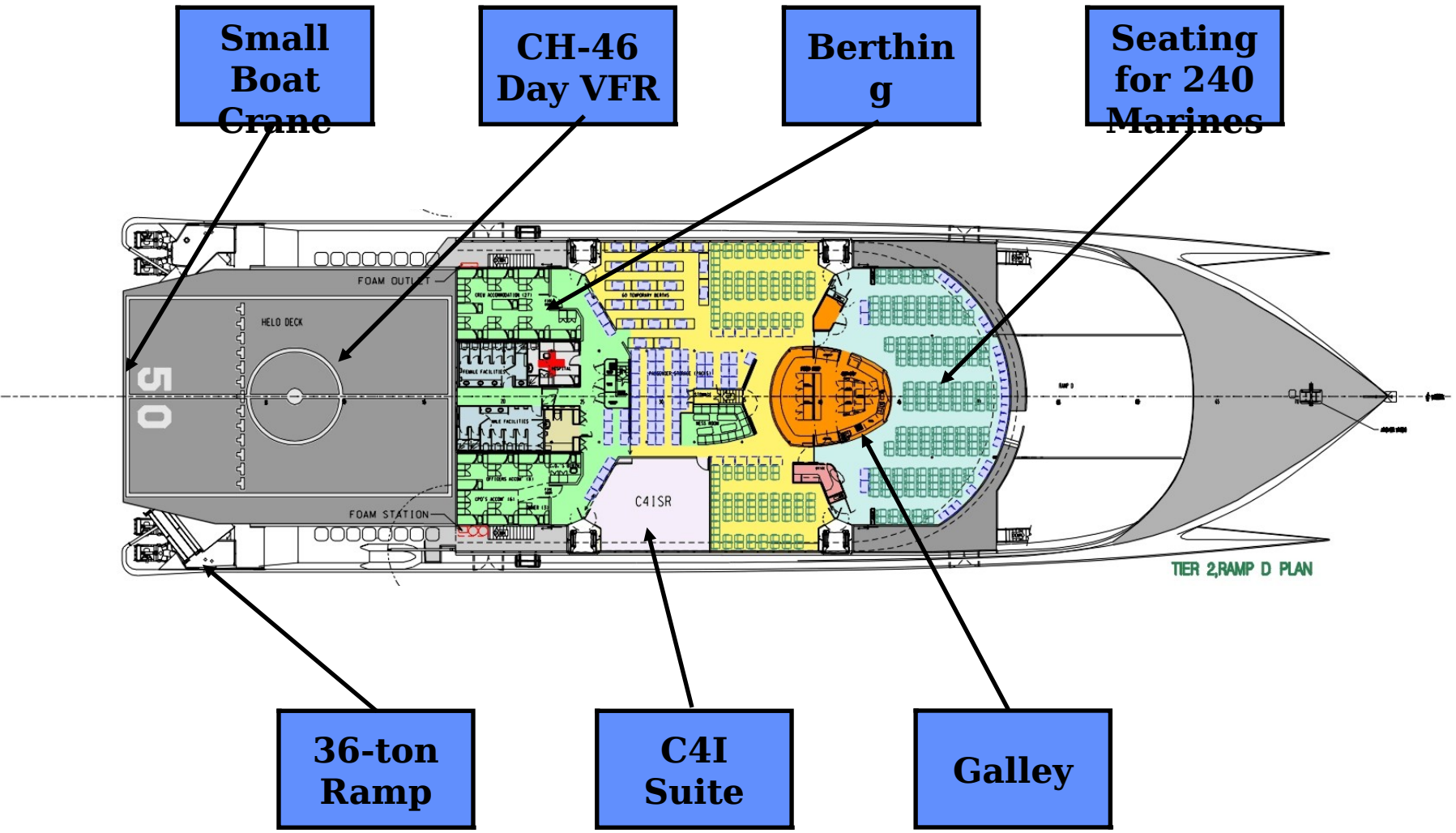
Future **… Concept based experimentation to transform support to future Joint Force Commanders**

Joint Venture – July 01

Joint Venture – Oct 01

- Built in 1998 by INCAT
- **Joint Crew**…Army, Navy & Marine Corps
- **COTS** - minor military mods …$1.5M to mod
- Water jet propulsion
- Speed – 48 kts max; 35 cruising
- Draft – 13’ max.
- Range – 4500nm (empty)
- Length – 96m/313 ft

Joint Venture Capabilities



X2 Enhanced Capabilities

- **70 ton slewing ramp**
- **Night helo ops capable, hangar deck**
- **20 ton aft crane**
- **AAAV Launch & Recovery capability**
- **Improved Tie Down arrangement**
- **Enhanced ride & habitability**
  - T-foil
- **Other Innovations**
  - No painting of hull
  - No non-skid on FD

Employment Options

- **Operational**
- **Logistical**
- **Ship-to-Shore Movement**
- **Ship-to-Ship Movement**
- **C4I Platform**

Joint Force Missions

- **Operational Maneuver**
  - Capability to use sea/waterways as Maneuver Space
  - Access austere, minor, degraded ports from OTH
  - Bypass vulnerable & congested MSRs
  - Able to rapidly reposition forces in littorals
- **Anti-Access Operations**
  - Advanced Force operations
- **Contingency Operations**
  - NEO – Link to ISB, movement of evacuees
  - HA/DR – C2 platform, movement of supplies, evacuation of personnel/casualties

Joint Force Missions

- **Riverine Operations**
  - C4I & logistics support platform, floating ISB
  - Deployment of Riverine Force
- **Intra-theater Lift**
  - Transport cargo, personnel, casualties & equipment
  - Provide linkage between ISB and Sea Base
  - Time Definite Unit Rotations … austere ports
- **R/W, Tilt Rotor Lily Pad**
- **Theater Engagement Activities**
  - Black Sea, UNITAS, WATC
- **Theater Medical Platform**

Navy & Army Concepts

- **Navy Vision**
  - MCM and ASW platform
  - Unmanned Sensors
  - Command Ship
  - SEAL Operations
  - Test bed for Littoral Combat Ship (LCS)
- **Army Vision**
  - Intra-theater movement
  - Port-to-Port focus

C4I Capabilities

- **Experimental C4I Suite**
  - Similar to CVBG capability
- **En-route planning capability**
- **HA/DR Assessment Team**
- **Forward, Alternate CP**
- **Advance Force Ops**
- **MPF Ops**
  - SLRP
  - AAOG

Experimentation to Date

- **Worldwide Employment & Experimentation**
  - CENTCOM, EUCOM, PACOM
  - SOUTHCOM (Feb 03)
  - Completed “Around the World” deployment
- **Major Exercises**
  - BATTLE GRIFFIN-02 (Norway)
  - BALTOPS-02 (Baltic)
  - MILLENIUM CHALLENGE-02 (West Coast)
  - VICTORY STRIKE (Poland/Germany)
  - TRI MEF MPF Exercise (Blount Island Command)

What Have We Accomplished?

- **Vehicle Maneuverability & Interoperability**
  - LVS, AAV, LAV
- **Causeway Interoperability**
  - Sea State 2+ Marriage accomplished
- **MPF Interoperability**
  - LO/LO operations
- **Support of MAGTF Operational Maneuver**
- **Conducted Intra-theater Movements**
  - Various Equipment densities, Sea states, distances
- **Advance Force Operations**
  - L/R Small boats in Sea State 3
- **Austere Port Operations**

LO/LO Ops

MPF – HSV LO/LO Interop

Causeway Ops

MC-02: Del Mar Boat Basin

Sea State 2 Marriage

Austere Port Ops

Vehicle Interop

Flight Ops

Intra-theater Lift

Jul 01 – Jul 02

1,705 Vehicles

31 R/W Aircraft

18,007 Pax

12,830 st Cargo

Planned HSV Schedule

- ***EUCOM OPS*** *(May thru Jun 03)*
  - *CORNERSTONE 03*
  - *St Petersburg Intl. Naval Flotilla*
  - *BALTOPS 03*
- **DESTINED GLORY 03** – Oct/Nov 03
- **BLUE GAME –** Apr 04
- **JOINT CHARGER –** Oct 04
- **BATTLE GRIFFIN 05** – Jan/Feb 05
- **AFRICAN LION 05** – Apr 05

USMC Way Ahead

- **Continue to explore concept of employment for HSV-type craft … What are the proper missions for these craft? How should they be employed?**

- **Develop technical solutions to improve…**
  - Ship-to-Ship & Ship-to Shore Transfer
  - Develop container handling capability
  - Improve access to austere & degraded ports
  - Develop Riverine capability

- **Develop Dialog with Other Nations to Exchange Data & Conduct Experimentation**

Current Issues

- **JTF-HOA**
  - Case Study for requirements
  - Lease of ferry for immediate support
- **Army Coordination**
  - ORD, Force Projection White Paper
  - Shared X2 lease
  - Port Chart Study
  - Rapid Port Enhancement R&D
  - INLS R&D
- **UNS**
  - DWG review – 13 Feb 03

Current Issues

- **Future USMC Systems Interop**
  - SURC
  - V-22
  - AAAV
  - MPF(F)
- **HSV Systems**
  - Cargo Handling System - BOEING demo
  - Side Loader – Fantuzzi USA
- **DG-03**
  - MPC – 17-21 Feb 03

Current Issues

- **X2 Construction**
- **X2 Scheduling**
  - Direct deployment to Theater
  - Quarterly Sked Update
- Littoral Combat System Impact